# Inspiration from world-class scientists leads Patricia Langan to nanoscience

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## Patricia Langan inspired by her colleagues feels driven to be just like them

Patricia Langan, a graduate research assistant, constantly learns new things while completing her dissertation in nanoscience and microsystems. She currently works with the Advanced Measurement Science Group on fluorescent protein engineering. Langan's project involves taking a green fluorescent protein and altering the protein's structure in order to change the colors of the emitted light.

Green fluorescent protein was first isolated from *Aequorea victoria,* a glowing jellyfish, and is now being engineered because of the prospective widespread usage and growing needs of researchers. New fluorescent protein variants can be used in imaging of biological systems or interactions using methods such as flow cytometry and fluorescence microscopy.

Langan's group has a very academic environment that is beneficial to her research. She collaborates with an array of biologists, chemists, and physicists on her dissertation, stating, "You are able to learn so much here. There is a diverse set of employees that answer a range of questions and teach new techniques. If I need a new type of instrument to do my work, I can find a colleague who can teach me how to use it."

Beginning with a summer internship as an undergraduate in the Bioscience Division, the Lab was a great place for Langan to spend her summer breaks because her parents lived here in town. While interning she discovered her interest in the fields of molecular biology and nanoscience, claiming, "The Lab helped me discover what kind of science I was really interested in. When I started as an undergraduate student, I knew I loved science but wasn't sure what field I wanted to pursue."

Langan has been a student for five years now. After graduating with a B.S in Molecular, Cell and Developmental Biology from the University of California, Santa Cruz, she returned to the Lab as a Post-Baccalaureate. Her group suggested and encouraged her to attend graduate school. So she took their advice by completing a Masters from the University of New Mexico, and is now pursuing a PhD while also finishing her research here.

During her off hours, Langan enjoys the benefits of Los Alamos. Last winter she joined the ski patrol at Pajarito Mountain, the local ski resort. Ski patrol provides emergency medical and rescue services on the mountain. "Work is eight minutes from the ski hill. If you're a ski junkie, *like me*, it's a perfect location!" says Langan. She's an outdoorsy person and also enjoys hiking, saying, "Los Alamos is in the middle of the mountains, it's really beautiful here."

The Lab provides Langan with an ideal environment to develop research skills as well as establish critical contacts within her field that will ultimately bring success to any career she chooses. She recommends working at the Lab, "because you are surrounded by such bright people that have accomplished so much. You look around and are driven to be like them; it's truly humbling."